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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte YASUMICHI KUWAYAMA
and TOSHIHIRO MAKI

Appeal 2008-000060
Application 10/775,203
Technology Center 2800

Decided:¹ July 14, 2009

Before JOSEPH F. RUGGIERO, ROBERT E. NAPPI, and
THOMAS S. HAHN, *Administrative Patent Judges*.

HAHN, *Administrative Patent Judge*.

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 from the Examiner's rejections of claims 1, 2, 5, 6, and 9. We have jurisdiction under 35 U.S.C. § 6(b). An oral hearing was held on July 7, 2009. We affirm.

STATEMENT OF THE CASE

Appellants claim a structure and method invention for a waterproof terminal-wire connection. Portions of a wire conductor and insulating sheath are inserted into cylindrical connection portions of the terminal, and the cylindrical connection portions are radially pressed uniformly so as to thereby uniformly reduce the diameter of the cylindrical connection portions.² Claim 1 is illustrative:

1. A structure for waterproofing a terminal-wire connecting portion comprising:

a wire including a conductor portion and an insulating sheath; and

a terminal including a substantially cylindrical wire connection portion,

wherein the conductor portion and the insulating sheath are inserted in the wire connection portion, and the wire connection portion is pressed radially uniformly over an entire periphery of the wire connection portion and over an entire length of the wire connection portion so that the conductor portion and the insulating sheath are held in intimate contact with an inner peripheral surface of the wire connection portion, and

the diameter of the wire connection portion is uniformly reduced over an entire periphery and an entire length of the wire connection portion.

² See generally Spec., 8:2-10:17; Figs. 1, 3, and 4.

The Examiner relies on the following prior art references to show unpatentability:

Ikeno	US 5,045,527	Sep. 3, 1991
Livshiz	US 2001/0016459 A1	Aug. 23, 2001 (filed May 5, 2001)
Kobayashi	JP 07-161392	June 23, 1995

1. The Examiner rejected claims 1, 2, 5, and 6 under 35 U.S.C. § 103(a) as unpatentable over Kobayashi and Livshiz (Ans. 4, 5).
2. The Examiner rejected claim 9 under 35 U.S.C. § 103(a) as unpatentable over Kobayashi, Livshiz, and Ikeno (Ans. 5, 6).

Rather than repeat the arguments of Appellants or of the Examiner, we refer to the Briefs and the Answer³ for their respective details. In this decision, we have considered only those arguments actually made by Appellants. Arguments that Appellants could have made but did not make in their Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Appellants' Arguments

Appellants argue that the grouped claims 1, 2, 5, and 6 are patentable because no combination of Kobayashi and Livshiz “would reasonably teach or suggest the claimed structure and method in which the diameter of the [terminal] wire connection portion . . . is *uniformly* reduced over an entire periphery and an entire length of the wire connection portion” (App. Br. 10,

³ We refer throughout this opinion to (1) the Appeal Brief filed Dec. 20, 2005, (2) the Answer mailed Feb. 24, 2006, and (3) the Reply Brief filed Apr. 24, 2006.

11). Additionally, Appellants, without referencing a claim limitation, assert that claim 9 is patentable because Kobayashi, Livshiz, and Ikeno “fail to teach or suggest all of the elements as set forth in claim 9” (App. Br. 13, 14). Relying on arguments submitted for claims 1, 2, 5, and 6, Appellants contend that Ikeno does not compensate for the deficiencies asserted against Kobayashi and Livshiz (*Id.*).

ISSUES

1. Under § 103, have Appellants shown that the Examiner erred in finding that the combined Kobayashi and Livshiz method and structure teaches uniform radial pressing of a terminal wire connection portion so that the diameter of the wire connection portion is uniformly reduced over an entire periphery and an entire length of the wire connection portion, in rejecting claims 1, 2, 5, and 6?
2. Under § 103, have Appellants shown that the Examiner erred in finding that the combined Kobayashi, Livshiz, and Ikeno method and structure teaches the elements set forth in claim 9? This issue turns on whether Kobayashi and Livshiz teach the elements of base independent claim 5, and, if not, whether Ikeno cures the deficiencies of Kobayashi and Livshiz.

FINDINGS OF FACT

The record supports the following Findings of Fact (FF) by a preponderance of the evidence:

Kobayashi

1. Kobayashi discloses a method and system for waterproof attachment of a compression terminal to a cable conductor (Kobayashi, ¶¶ 0001, 0005).
2. The Kobayashi disclosed compression terminal includes a conductor compression cavity and a sheath compression cavity. Both of the conductor and sheath compression cavities are aligned so that a length of cable conductor with the sheath removed and an adjacent length of sheath covered conductor can be inserted into the respective aligned conductor and sheath compression cavities. (Kobayashi, ¶¶ 0008, 0009; Figs. 1(a), 1(b)).
3. Kobayashi further discloses that connection of the terminal is made to both the cable conductor and sheath by compressing the terminal conductor and sheath part cavities. This compression connection of the terminal to the cable conductor and sheath is disclosed by Kobayashi as preventing water from “invading” into the compressed portions of the conductor and sheath. (Kobayashi, ¶¶ 0009, 0013; Fig. 1(b)).

Livshiz

4. Livshiz discloses a method and system for using pulsed magnetic energy for joining or welding multiple metal work pieces to one another. According to Livshiz, the disclosed pulsed magnetic energy process can be used to join a cable lug to a cable so the cable “filaments or wires are compacted with very little void space (. . .

- essentially zero), i.e., the filaments or wires fill essentially the entire lumen in which they are contained.” (Livshiz, ¶¶ 0001, 0013).
5. Livshiz discloses inserting cable conductor fibers into a cylindrical or tubular lumen portion of a cable lug, and applying a constriction force to join the cable to the cable lug about and along a constricted cable lug cylindrical portion. Livshiz discloses that after full constriction, i.e., compression, the cable within the cable lug cylindrical portion is “constrict[ed] to about 80% of its original diameter.” (Livshiz, ¶¶ 0077-0081; Figs. 1-5).
6. Livshiz further discloses that applying a pulsed magnetic force is accomplished using a lumen in which is positioned the cable lug cylindrical portion to be constricted about inserted cable conductor fibers. Surrounding the exterior of the lumen is a coil that is connected to a control module. “[A] strong current [from the control module] is rapidly discharged through [the] coil . . . and the pulsed magnetic force which arises in consequence thereto, brings to constriction . . . the walls of [the cable lug] cylindrical portion . . . onto the end of [the] cable . . . , whereby the two become firmly joined to one another.” (Livshiz, ¶¶ 0083-0085; Fig. 6).

PRINCIPLES OF LAW

It is incumbent upon the Examiner, in rejecting claims under 35 U.S.C. § 103, to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073-74 (Fed. Cir. 1988). To do so the Examiner must make factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966) (stating that 35 U.S.C.

§ 103 leads to three basic factual inquiries: the scope and content of the prior art, the differences between the prior art and the claims at issue, and the level of ordinary skill in the art). “[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability.” *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). Furthermore,

“there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness” [H]owever, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.

KSR Int’l Co. v. Teleflex Inc., 550 U.S. 398, 418 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

ANALYSIS

Obviousness over Kobayashi and Livshiz

Claims 1, 2, 5, and 6

Based on the record, we will sustain the Examiner’s rejection of representative apparatus claim 1.⁴

Appellants do not specify any claimed limitation as disputed, but, instead, broadly assert that no combination of the references teaches or

⁴ Appellants generally reference arguments to independent claims 1 and 5, but do not separately argue any of the grouped claims, including independent claims 1 and 5 (App. Br. 10-13). Accordingly, we select independent claim 1 as representative of this group. *See* 37 C.F.R. § 41.37 (c)(1)(vii).

suggests reducing the diameter of a terminal wire connection uniformly over an entire periphery and length of the wire connection portion (App. Br. 10, 11).⁵ Appellants then address the references serially.

Beginning with Kobayashi, Appellants contend that the Examiner acknowledges that this reference “does not disclose that the wire connection portion is pressed uniformly radially over the entire periphery and an entire length of the wire connection portion” (App. Br. 11). What the Examiner does acknowledge is that “Kobayashi does not *specifically* disclose the wire connection portion being pressed over an entire periphery and over an entire length” (Ans. 5) (emphasis added). Concerning Kobayashi teachings, we find Kobayashi teaches compression attachment of a terminal onto a cable conductor and sheath so that the connection is waterproof, i.e., water is prevented from “invading” into the compressed portions of the conductor and sheath (FF 1-3).

Turning to Livshiz, Appellants assert that (i) “it appears that the Examiner’s position is that [Livshiz] discloses a structure in which the diameter of the wire connection portion is uniformly reduced over an entire periphery and . . . length of the wire connection portion” (App. Br. 12), and (ii) a Livshiz pulsed magnetic force apparatus “cannot press the wire

⁵ In context, structure claim 1 recites that “the wire connection portion is pressed radially uniformly over an entire periphery of the wire connection portion and over an entire length of the wire connection portion.” Also recited in claim 1 is a consequence of uniform radial pressing; i.e., “the diameter of the wire connection portion is uniformly reduced over an entire periphery and an entire length of the wire connection portion.”

connection portion so that its diameter is uniformly reduced over an entire periphery and an entire length . . .” (*Id.*).

With respect to Appellants first assertion, we concur that the Examiner finds Livshiz teaching application of a constriction force to join a cable lug to a cable conductor about and along a compressed cable lug cylindrical portion (Ans. 5), and we concur with this finding (FF 5). Further, we find that Livshiz teaches that the compressed cable lug cylindrical portion is “constrict[ed] to about 80% of its original diameter” (FF 5). We do not find that Livshiz teaches or suggests that the reduction in diameter changes the lug cylindrical portion cross section from being circular. Therefore, we conclude that the Livshiz applied compression force is radial and uniform.

As an initial matter, Appellants’ second assertion is unavailing because none of the grouped claims recites a limitation covering any apparatus for applying radial compression force. This leaves the thrust of Appellants’ argument as being that Livshiz fails to teach applying a uniform radial compression force to a length of a wire connection portion, because the Livshiz taught pulsed magnetic force apparatus is construed by Appellants as not being able to apply a uniform radial compression force. We are not persuaded by this attack on Livshiz, because we find that Livshiz explicitly teaches applying a constriction force both about and along a cable lug cylindrical portion so that a cable within the cable lug cylindrical portion is “constrict[ed] to about 80% of its original diameter” (FF 5). Appellants have not submitted evidence nor arguments, other than assertions directed to the Livshiz pulsed magnetic force apparatus, to rebut Livshiz teachings for a constricted cable lug cylindrical portion having about an 80% reduced

diameter. The record includes no evidence or argument refuting that an ordinarily skilled artisan would understand that a reduced cylindrical original diameter, which Livshiz teaches, could result from other than application of a radial uniform compression force. Consequently, Appellants' arguments that the Livshiz pulsed magnetic apparatus fails to apply uniform radial compressive force are irrelevant, because there is no disputed claim limitation that encompasses in any way pulsed magnetic forces.

In conclusion, Appellants argue the Livshiz pulsed magnetic force apparatus has a U-shaped lumen with an open gap, and that if a cable lug cylinder portion is positioned in this lumen, which is a non-uniform shape, the consequence would be “a *non-uniform* electrically generated compressing force” (App. Br. 12). This argument is not persuasive, because we find Livshiz discloses that “a strong current is rapidly discharged through [the pulsed magnetic apparatus] coil . . . and the pulsed magnetic force which arises in consequence thereto, brings to *constriction* . . . the walls of [the cable lug] cylindrical portion . . . onto the end of [the] cable . . . , whereby the two become firmly joined to one another” (FF 6) (emphasis added). This Livshiz teaching, we find, is consistent with the consequent Livshiz teaching of constricting a cable lug cylinder original diameter to about 80% (FF 5).

On the record before us, we therefore find that Appellants have not persuasively rebutted the Examiner's prima facie obviousness rejection.

For the foregoing reasons, Appellants have not persuaded us of error in the Examiner's rejection of representative claim 1. Therefore, we will

sustain the Examiner's rejection of claim 1, and also the rejection of claims 2, 5, and 6 that fall with claim 1.

Obviousness over Kobayashi, Livshiz, and Ikeno

Claim 9

Claim 9 is dependent from base independent claim 5. Appellants merely argue, with respect to claim 9, that Ikeno "does not compensate for the [Kobayashi and Livshiz] deficiencies" asserted in respect to claim 5 (App. Br. 14). For the reasons previously indicated, we are not persuaded by the referenced reiteration of Appellants' argument with regard to Kobayashi, Livshiz, and claim 5. This argument also fails to persuasively rebut the Examiner's prima facie case of obviousness, a position we find reasonable.

Accordingly, Appellants have not persuaded us of error in the Examiner's rejection of claim 9. Therefore, we will sustain the Examiner's rejection.

CONCLUSIONS OF LAW

Under § 103, Appellants have not shown that the Examiner erred in finding that the combined Kobayashi and Livshiz method and structure teaches uniform radial pressing of a terminal wire connection portion so that the diameter of the wire connection portion is uniformly reduced over an entire periphery and an entire length of the wire connection portion, in rejecting claims 1, 2, 5, and 6.

Under § 103, Appellants have not shown that the Examiner erred in finding that the combined Kobayashi, Livshiz, and Ikeno method and structure teaches the elements set forth in claim 9.

ORDER

The Examiner's decision rejecting claims 1, 2, 5, 6, and 9 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

gvw

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